Having thus described the invention, it is now claimed:

1. A method for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique having symbols with associated sub-carrier frequencies, the method comprising the steps of:

determining at a first communication device sub-carrier frequencies of the symbols suitable for communication with the first communication device;

transmitting data from the first communication device to at least a second communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first communication device;

determining at a second communication device sub-carrier frequencies of the symbols suitable for communication with the second communication device; and

transmitting data from the second communication device to at least the first communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices.

2. A method according to claim 1, wherein said method further comprises:

commencing data communication from the first communication device to at least the second communication device using the sub-carrier frequencies of the symbols, in accordance with the data received from the second communication device.

3. A method according to claim 1, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first communication device includes a bitmap.

4. A method according to claim 1, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices includes a bitmap.

5. A method according to claim 1, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first communication device is transmitted redundantly to the second communication device

using a plurality of sub-carriers.

6. A method according to claim 1, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices is transmitted redundantly to the first communication device using a plurality of sub-carriers.

7. A method according to claim 1, wherein said step of determining at a first communication device sub-carrier frequencies of the symbols suitable for communication with the first communication device, includes spectrum analysis to evaluate energy levels.

8. A method according to claim 1, wherein said step of determining at a second communication device sub-carrier frequencies of the symbols suitable for communication with the second communication device, includes spectrum analysis to evaluate energy levels.

9. A method according to claim 1, wherein said multi-carrier modulation technique uses sub-carriers which are orthogonal to each other.

10. A method according to claim 1, wherein said step of transmitting data from the second communication device to at least the first communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices, includes the step of transmitting an acknowledge signal to indicate sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices.

11. A system for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique having symbols with associated sub-carrier frequencies, the system comprising:

means for determining at a first communication device sub-carrier frequencies of the symbols suitable for communication with the first communication device;

means for transmitting data from the first communication device to at least

a second communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first communication device;

means for determining at a second communication device sub-carrier frequencies of the symbols suitable for communication with the second communication device; and

means for transmitting data from the second communication device to at least the first communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices.

12. A system according to claim 11, wherein said system further comprises:

means for commencing data communication from the first communication device to at least the second communication device using the sub-carrier frequencies of the symbols, in accordance with the data received from the second communication device.

13. A system according to claim 11, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first communication device includes a bitmap.

14. A system according to claim 11, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices includes a bitmap.

15. A system according to claim 11, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first communication device is transmitted redundantly to the second communication device using a plurality of sub-carriers.

16. A system according to claim 11, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices is transmitted redundantly to the first communication device using a plurality of sub-carriers.

17. A system according to claim 11, wherein said means for determining at a first communication device sub-carrier frequencies of the symbols suitable for communication with the first communication device, includes means for performing a spectrum analysis to evaluate energy levels.

18. A system according to claim 11, wherein said means for determining at a second communication device sub-carrier frequencies of the symbols suitable for communication with the second communication device, includes means for performing spectrum analysis to evaluate energy levels.

19. A system according to claim 11, wherein said multi-carrier modulation technique uses sub-carriers which are orthogonal to each other.

20. A system according to claim 11, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices is an acknowledge signal.

21. A system for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique having symbols with associated sub-carrier frequencies, the system comprising:

a first receiver for receiving communication at a first communication device;

a first signal processor for determining at the first communication device sub-carrier frequencies of the symbols suitable for communication with the first communication device;

a first transmitter for transmitting data from the first communication device to at least a second communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first communication device;

a second receiver for receiving communications at a second communication device;

a second signal processor for determining at the second communication device sub-carrier frequencies of the symbols suitable for communication with the second communication device; and

a second transmitter for transmitting data from the second communication

device to at least the first communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices.

22. A system according to claim 21, wherein the first transmitter commences data communication from the first communication device to at least the second communication device using the sub-carrier frequencies of the symbols, in accordance with the data received from the second communication device.

23. A system according to claim 21, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first communication device includes a bitmap.

24. A system according to claim 21, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices includes a bitmap.

25. A system according to claim 21, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first communication device is transmitted redundantly to the second communication device using a plurality of sub-carriers.

26. A system according to claim 21, wherein said data indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices is transmitted redundantly to the first communication device using a plurality of sub-carriers.

27. A system according to claim 21, wherein said system further comprises a first spectrum analyzer to evaluate energy levels at the first communication device.

28. A system according to claim 21, wherein said system further comprises a second spectrum analyzer to evaluate energy levels at the second communication device.

29. A system according to claim 21, wherein said multi-carrier modulation technique uses sub-carriers which are orthogonal to each other.

30. A system according to claim 21, wherein said second transmitter transmits an acknowledge signal to indicate sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices.

31. A method for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique having symbols with associated sub-carrier frequencies, the method comprising the steps of:

determining at a first communication device sub-carrier frequencies of the symbols suitable for communication with the first communication device; and

transmitting data from the first communication device to at least a second communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first communication device.

32. A method according to claim 31, wherein said method further comprises:

receiving the data from the first communication device at a second communication device;

determining at the second communication device sub-carrier frequencies of the symbols suitable for communication with the second communication device; and

transmitting data from the second communication device to at least the first communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices.

33. A method according to claim 32, wherein said method further comprises:

commencing data communication from the first communication device to at least the second communication device using the sub-carrier frequencies of the symbols, in accordance with the data received from the second communication device.

34. A method according to claim 32, wherein said step of transmitting data from the second communication device to at least the first communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices, includes the step of transmitting an acknowledge signal to indicate sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices.

35. A method for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique having symbols with associated sub-carrier frequencies, the method comprising the steps of:

receiving data at a second communication device, wherein said data is indicative of sub-carrier frequencies of the symbols suitable for data communication with at least a first communication device;

determining at the second communication device sub-carrier frequencies of the symbols suitable for communication with the second communication device; and

transmitting data from the second communication device to at least the first communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with at least the first and second communication devices.

36. A method according to claim 35, wherein said method further comprises:

commencing data communication from the first communication device to at least the second communication device using the sub-carrier frequencies of the symbols, in accordance with the data received from the second communication device.

37. A system for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique having symbols with associated sub-carrier frequencies, the system comprising:

means for determining at a first communication device sub-carrier frequencies of the symbols suitable for communication with the first communication device; and

means for transmitting data from the first communication device to at least a second communication device indicative of sub-carrier frequencies of the symbols

suitable for data communication with the first communication device.

38. A system according to claim 37, wherein said system further comprises:

means for receiving the data from the first communication device at a second communication device;

means for determining at the second communication device sub-carrier frequencies of the symbols suitable for communication with the second communication device; and

means for transmitting data from the second communication device to at least the first communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices.

39. A system according to claim 38, wherein said system further comprises:

means for commencing data communication from the first communication device to at least the second communication device using the sub-carrier frequencies of the symbols, in accordance with the data received from the second communication device.

40. A system for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique having symbols with associated sub-carrier frequencies, the system comprising:

means for receiving data at a second communication device, wherein said data is indicative of sub-carrier frequencies of the symbols suitable for data communication with at least a first communication device;

means for determining at the second communication device sub-carrier frequencies of the symbols suitable for communication with the second communication device; and

means for transmitting data from the second communication device to at least the first communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with at least the first and second communication devices.

41. A system according to claim 40, wherein said system further

comprises:

means for commencing data communication from the first communication device to at least the second communication device using the sub-carrier frequencies of the symbols, in accordance with the data received from the second communication device.

42. A system for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique having symbols with associated sub-carrier frequencies, the system comprising:

a first receiver for receiving communication at a first communication device;

a first signal processor for determining at the first communication device sub-carrier frequencies of the symbols suitable for communication with the first communication device; and

a first transmitter for transmitting data from the first communication device to at least a second communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first communication device.

43. A system according to claim 42, wherein said system further comprises:

a second receiver for receiving communications at a second communication device;

a second signal processor for determining at the second communication device sub-carrier frequencies of the symbols suitable for communication with the second communication device; and

a second transmitter for transmitting data from the second communication device to at least the first communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with at least the first and second communication devices.

44. A system according to claim 43, wherein the first transmitter commences data communication from the first communication device to at least the second communication device using the sub-carrier frequencies of the symbols, in accordance with the data received from the second communication device.

45. A system according to claim 43, wherein said second transmitter transmits an acknowledge signal to indicate sub-carrier frequencies of the symbols suitable for data communication with the first and second communication devices.

46. A system for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique having symbols with associated sub-carrier frequencies, the system comprising:

a second receiver for receiving communications at a second communication device, wherein said communication include data indicative of sub-carrier frequencies of the symbols suitable for data communication with at least a first communication device;

a second signal processor for determining at the second communication device sub-carrier frequencies of the symbols suitable for communication with the second communication device; and

a second transmitter for transmitting data from the second communication device to at least the first communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with at least the first and second communication devices.

47. A system according to claim 46, wherein said system further comprises:

a first receiver for receiving communication at the first communication device;

a first signal processor for determining at the first communication device sub-carrier frequencies of the symbols suitable for communication with the first communication device; and

a first transmitter for transmitting data from the first communication device to at least a second communication device indicative of sub-carrier frequencies of the symbols suitable for data communication with the first communication device.

48. A system according to claim 47, wherein the first transmitter commences data communication from the first communication device to at least the second communication device using the sub-carrier frequencies of the symbols, in accordance with the data received from the second communication device.

49. A system according to claim 47, wherein said second transmitter transmits an acknowledge signal to indicate sub-carrier frequencies of the symbols suitable for data communication with at least the first and second communication devices.